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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/639,642	08/16/2000	Samel Celebi	Celebi 3	3018

7590 06/02/2004
Troutman Sanders Mays & Valentine
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McLean, VA 22102

EXAMINER

WARE, CICELY Q

ART UNIT	PAPER NUMBER
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2634

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/639,642

Applicant(s)

CELEBI, SAMEL

Examiner

Cicely Ware

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2000 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date 2. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. This application has been filed with informal drawings, which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Objections

3. Claims 4 and 10 are objected to because of the following informalities:
 - a. Examiner suggests applicant delete spaces between lines 2 and 3, 4 and 5 for clarification purposes.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5-7 are rejected under 35 U.S.C. 102(a) as being anticipated by Ho et al. (US Patent 5,317,596).

(1) With regard to claim 1, Ho et al. discloses an echo canceller for minimizing interblock interference, wherein the device is adapted to compute an optimum time of reference based on minimizing total interblock interference power (abstract, col. 1, lines 17-20, 25-33, 60-63, col. 2, lines 49-59, col. 5, lines 53-58).

(2) With regard to claim 5, claim 5 inherits all the limitations of claim 1. Ho et al. further discloses wherein the device comprises a transceiver module (col. 1, lines 8-13).

(3) With regard to claim 6, claim 6 inherits all the limitations of claim 1. Ho et al. further discloses wherein the device comprises a DMT transceiver (col. 1, lines 8-13, col. 2, lines 13-15, col. 4, lines 24-27).

(4) With regard to claim 7, claim 7 inherits all the limitations of claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uderdem (US Patent 4,617,535) as applied to claim 1 and 7 above.

(1) With regard to claim 2, claim 2 inherits all the limitations of claim 1 above.

However Ho et al. does not disclose wherein computing an optimum time of reference comprises generating a windowing function which reflects the fact that points along tails of an impulse response contribute non-uniform amounts of interblock interference.

However Uderdem discloses an echo modulator wherein computing an optimum time of reference comprises generating a windowing function which reflects the fact that points along tails of an impulse response contribute non-uniform amounts of interblock interference (col. 2, lines 3-11, 19-33, 39-66).

Therefore it would have been obvious to one of ordinary skill in the art to modify Ho et al. to incorporate wherein computing an optimum time of reference comprises generating a windowing function which reflects the fact that points along tails of an impulse response contribute non-uniform amounts of interblock interference in order to modify signal elements so that the element and only its first echoes will most closely give the desired frequency band.

(2) With regard to claim 8, claim 8 inherits all the limitations of claim 7 and 2 above.

8. Claims 3, 4, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ho et al. (US Patent 5,317,596) in combination with Unerdem (US Patent 4,617,535) as applied to claims 1, 2, and 8 above, and further in view of Eriksson (US Patent 6,466,666).

(1) With regard to claim 3, claim 3 inherits all the limitations of claim 2 above. Ho et al. in combination with Unerdem disclose all the limitations of claim 2 above. However Ho et al. in combination with Unerdem do not disclose wherein computing an optimum time of reference further comprises generating a time of reference-optimizing function by minimizing a cross-correlation between the windowing function and square of the impulse response.

However Eriksson discloses echo suppressor wherein computing an optimum time of reference further comprises generating a time of reference-optimizing function by minimizing a cross-correlation between the windowing function and square of the impulse response (col. 4, lines 50-67, col. 5, lines 1-4).

Therefore it would have been obvious to one of ordinary skill in the art to modify the inventions of Ho et al. in combination with Unerdem to incorporate wherein computing an optimum time of reference further comprises generating a time of reference-optimizing function by minimizing a cross-correlation between the windowing function and square of the impulse response in order to build a model capable of estimating echo return loss and delay.

(2) With regard to claim 4, claim 4 inherits all the limitations of claim 3. Unerdem further discloses wherein computing an optimum time of reference further comprises:

computing an output value of the time of reference-optimizing function; and identifying the optimum time of reference as a location of the output value (col. 2, lines 39-66, col. 3, lines 1-17).

(3) With regard to claim 9, claim 9 inherits all the limitations of claims 8 and 3 above.

(4) With regard to claim 10, claim 10 inherits all the limitations of claims 9 and 4 above.

Conclusion

9. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

a. Langberg et al. US Patent 6,421,377 discloses a system and method for echo cancellation over asymmetric spectra.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 703-305-8326. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.


Art Unit: 2634

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw

May 14, 2004



STEPHEN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2300